

IN THE SPECIFICATION:

Please replace paragraph 17 on page 7, line 4 in the specification as shown below.

[0017] In the first step, illustrated in FIGS. 1 and 2, a first signal network 20 and anchor pads 22 for a movable member are formed on a substrate 24. Bond pads 26 for a control circuit 28 can also be formed on the substrate 24 in this step. The first signal network 20 shown in Fig. 1 includes a pair of bond pads 30 located at opposite edges of the substrate 24 and a stripline 32, which also acts as an actuating element, which is described in detail below extending between the bond pads 30 to function as a first electrode. The first signal network 20 and pads 22 can be formed on the substrate 24 in any conventional manner but are preferably formed using a lift-off procedure wherein a conductive base layer is formed on the substrate and etched through a template defined by a layer of photoresist that is later removed. The substrate 24 can be any suitable material including, but not limited to, a semiconductor material, such as silicon or gallium arsenide, a ceramic, a glass-reinforced plastic, or a plastic material. The conductive base layer material can be any conductive material but is preferably a metal such as copper, platinum, gold, aluminum or alloys thereof.

Please replace paragraph 29 on page 14, line 3 in the specification as shown below.

[0029] The resulting MEMS device 60 includes an electrically conductive moving member 44 supported above a signal line 32 on a substrate 24 within a hermetically sealed chamber defined by a helmet 54. Electrical connections between the moving member 44, the signal line 32 and external circuits (not shown) can be made using the bond pads 30 illustrated in FIG. 1. In general, the control circuit 28 is used to control the position of the moving member relative to the signal line 32 actuating element by varying the voltage potential between these elements. The signal line 32 is connected to circuitry that carries a signal affected by the position of the moving member 44. Because the MEMS device 60 exhibits extremely low loss, it is ideal for use in RF applications as a switch or a tunable capacitor. The device 60 can also be used in a phase shifter, a time delay unit, and other devices and systems.

The following listing of the claims replaces all prior versions, and listings, of the claims of the application.

IN THE CLAIMS:

1. (Original) A method of manufacturing a micro-electromechanical device comprising the steps of:
  - forming a moving member on a first substrate such that a first sacrificial layer is disposed between the moving member and the substrate;
  - encapsulating the moving member, including the first sacrificial layer, with a second sacrificial layer;
  - coating the second sacrificial layer with a first film formed of a material that establishes an hermetic seal with the substrate; and
  - removing the first and second sacrificial layers.
2. (Original) The method of claim 1, further comprising the step of forming an opening in the first film prior to removing the first and second sacrificial layers.
3. (Original) The method of claim 2, wherein said opening forming step is performed during said coating step.
4. (Original) The method of claim 2, wherein said opening forming step is performed after said coating step.

5. (Original) The method of claim 2, further comprising the step of sealing the opening after the first and second sacrificial layers are removed.

6. (Original) The method of claim 5, wherein said sealing step is performed by coating the first film with a second film formed of the same material as the first film.

7. (Original) The method of claim 2, wherein said step of removing the first and second sacrificial layers includes the step of immersing the switch in one of a reactive liquid solution, a reactive gas, and a supercritical fluid.

8. (Original) The method of claim 1, further comprising the step of forming a conductive layer on the first film.

9. (Original) The method of claim 8, further comprising the step of coating the conductive layer with a second film such that the conductive layer is disposed between the first and second films.

10. (Currently Amended) The method of claim 9, wherein the second film is comprises the same material as the first film.

11. (Original) The method of claim 8, further comprising the step of connecting the conductive layer with a second circuit that causes the conductive layer to act as a counter electrode.

12. (Currently Amended) The method of claim 1, wherein the miniature micro- electromechanical device is formed on a substrate with other circuit components and the first film covers only the electromechanical device.

13. (Original) The method of claim 1, further comprising the step of mounting the first substrate on a second substrate carrying other circuit components.

14. (Currently Amended) The method of claim 5, further comprising the step of coating the movable moving member with an anti-stiction film prior to said sealing step.

15. (Currently Amended) The method of claim 1, wherein said steps are performed for a plurality of moving members to form a plurality of microelectromechanical devices are formed on the first substrate and encapsulated by the first film, and further comprising the step of cutting the substrate to separate the microelectromechanical devices.

16. (Currently Amended) A micro-electromechanical system (MEMS) device comprising:

a first substrate;

a first control circuit formed on said first substrate and including a first actuation element;

a movable member formed on said first substrate in spaced relation to said first actuation element, said movable member being electrically conductive and movable in the direction of said first actuation element; and

a helmet defining a hermetically sealed chamber around said movable member, said helmet being formed by removing a sacrificial layer between said movable member and said helmet, wherein said helmet has tapered sides.

17. (Original) The MEMS device of claim 16, and further comprising an inert gas disposed within said hermetically sealed chamber.

18. (Original) The MEMS device of claim 16, and further comprising a second control circuit with an actuator element disposed within said helmet.

19. (Original) The MEMS device of claim 16, and further comprising a plurality of moving members formed on said substrate, wherein said helmet defines a plurality of

hermetically sealed chambers around said movable members.

20. (Original) The MEMS device of claim 16, wherein said helmet is formed of a silicon oxynitride film.

21. (Cancelled)

22. (Currently Amended) A method of fabricating a micro-electromechanical system (MEMS) device comprising the steps of:

forming a control circuit with an actuating element on a substrate;  
~~defining forming a movable moving member above the actuating element by~~  
applying a first sacrificial layer over the actuating element, depositing a conductive material such that the material extends from the control circuit to cover the first sacrificial layer, and removing portions of the first sacrificial layer around the movable member but not between the moving member and the substrate;  
encapsulating the moving member on all sides with a second sacrificial layer;  
coating the second sacrificial layer with a material that forms an a hermetic seal with the substrate; and  
removing the first and second sacrificial layers.

23. (Original) The method of claim 22, wherein said step of applying a first sacrificial layer includes tapering edges of the first sacrificial layer.

24. (Currently Amended) The method of claim 23, wherein said step of encapsulating the moving members with applying a second sacrificial layer includes tapering edges of the second sacrificial layer.

25. (Currently Amended) The method of claim 24, wherein said tapering further comprising a step includes of curing then baking the first and second sacrificial layers after curing.